

Listing of the Claims:

Claims 1 – 4 (Cancelled).

Claim 5 (Previously Presented): A process for producing a poly(arylene sulfide) by polymerizing a sulfur source and a dihalo-aromatic compound in an organic amide solvent in a reaction system, which comprises the respective steps of:

(1) a dehydration step of heating and reacting a mixture in the system containing (i) the organic amide solvent, (ii) an alkali metal hydrosulfide as an aqueous mixture with water, and (iii) an alkali metal hydroxide as an aqueous mixture with water, the alkali metal hydroxide being employed in a proportion of 0.95 to 1.02 mol per mol of the alkali metal hydrosulfide, calculated on the basis of the content (analytical value) of the alkali metal hydrosulfide, to discharge at least a part of a distillate containing water from the interior of the system to the exterior of the system, wherein hydrogen sulfide formed upon the dehydration is discharged as a gas to the exterior of the system, wherein the discharge of hydrogen sulfide to the exterior of the system is directly linked with a weight loss of sulfur amount in the system,

(2) a charging step of adding an alkali metal hydroxide and water to the mixture remaining in the system after the dehydration step, as needed, to control the total number of moles of (i) an alkali metal hydroxide formed with hydrogen sulfide formed upon the dehydration, (ii) the alkali metal hydroxide added prior to the dehydration, and (iii) the alkali metal hydroxide added after the dehydration, and to control the number of moles of (iv) water, to provide 1.015 to 1.050 moles of (i)-(iii) per mol of a sulfur source (hereinafter referred to as “charged sulfur source”) including the alkali metal hydrosulfide existing in the system after the

dehydration and 0.5 to 2.0 moles of (iv) per mol of the charged sulfur source, wherein the amount of the charged sulfur source is calculated in accordance with an equation: [Charged sulfur source] = [Total moles of sulfur charged] – [Moles of sulfur volatilized out after dehydration],

(3) a first-stage polymerization step of adding a dihalo-aromatic compound to the mixture to subject the sulfur source and the dihalo-aromatic compound to a polymerization reaction at a temperature of 170 to 270°C, thereby forming a prepolymer with a conversion of the dihalo-aromatic compound of 50 to 98%, and

(4) a second-stage polymerization step of controlling the amount of water in the reaction system after the first-stage polymerization step so as to bring about a state that water exists in a proportion of more than 2.0 mol, but up to 10 mol per mol of the charged sulfur source, and heating the reaction system to 245 to 290°C, thereby continuing the polymerization reaction,

wherein at the completion of polymerization, a poly(arylene sulfide) having a bis(4-chlorophenyl) sulfide content lower than 30 ppm as determined by a gas chromatographic analysis, a melt viscosity value (MV1) of 30 to 500 Pa·s as measured at a temperature of 310°C and a shear rate of 1,216 sec⁻¹, a ratio (MV2/MV1) of a melt viscosity value (MV2) of the poly(arylene sulfide) after a reaction with aminosilane to the melt viscosity value (MV1) before the reaction of 2.1 to 3.0 as measured at a temperature of 310°C and a shear rate of 1,216 sec⁻¹, and a yellow index of at most 7 is provided.

Claim 6 (Cancelled).

Claim 7 (Original): The production process according to claim 5, wherein in the dehydration step, the mixture is heated to a temperature of 100 to 250°C.

Claims 8 – 9 (Cancelled).

Claim 10 (Original): The production process according to claim 5, wherein in the first-stage polymerization step, a prepolymer having a melt viscosity of 0.5 to 30 Pa·s as measured at a temperature of 310°C and a shear rate of 1,216 sec⁻¹ is formed.

Claim 11 (Previously Presented): The production process according to claim 5, which further comprises, after the second-stage polymerization step,

(5) a separation step of separating the polymer formed from a reaction mixture containing the polymer, and

(6) a washing step of washing the polymer thus separated with an organic solvent.

Claim 12 (Original): The production process according to claim 11, wherein in the separation step, the polymer is separated from the reaction mixture by sieving.

Claim 13 (Original): The production process according to claim 11, wherein the organic solvent used in the washing step is acetone.

Claims 14 – 16 (Cancelled).

Claim 17 (Previously Presented): The production process according to claim 5, wherein the poly(arlene sulfide) has a melt viscosity value (MV1) of 125 to 500 Pa·s.

Claim 18 (Previously Presented): The production process according to claim 5, wherein the poly(arlene sulfide) has a bis (4-chlorophenyl) sulfide content not greater than 21 ppm as determined by gas chromatographic analysis.